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## PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Nakamura et al

Appln. Serial No.: 09/845,355

Group Art Unit: 1752

Filed: May 1, 2001

Examiner: Thorl Chea

For: SILVER HALIDE PHOTOGRAPHIC EMULSION AND  
SILVER HALIDE PHOTOGRAPHIC MATERIALDECLARATION UNDER 37 C.F.R. §1.132Commissioner for Patents  
Washington, D.C. 20231

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MAY 30 2002

TC 1700

Sir:

I, Tetsuo Nakamura, do declare and state that:

I am a citizen of Japan;

I received a M.S. from Tokyo University, Faculty of Science  
for work in HIGH SELECTIVE DEPROTONATION REACTION USING A BASE  
HAVING A LARGE STERIC HINDRANCE in March 1988;I have been working for Fuji Photo Film Co., Ltd., at  
Ashigara Research Laboratories on silver halide emulsions since  
May 1988.

I am a co-inventor of the above-identified application.

DECLARATION UNDER 37 C.F.R. §1.132

Application No. 09/845,355

I have reviewed the Office Action of February 28, 2002 regarding the above application and have noted the Examiner's allegation that claims of the present application would be rendered obvious over Miyamoto et al (U.S. Patent 5,364,755) and Hioki et al (U.S. Patent 6,103,461).

The following comparative experimentation was carried out in order to demonstrate that the unexpected excellent effect can be obtained by using two different sensitizing dyes according to the present invention in combination.

- Comparative Experimentation -

EXAMPLE 2

Preparation of Sample Nos. 211 to 214

Sample Nos. 211 to 214 were prepared by replacing in Sensitizing Dyes S-1 and S-2 in Emulsions A to E used in Sample No. 201 of Example 2 of the present specification with equimolar amounts of the dyes as shown in Table 3' below.

Each piece of the thus-obtained samples was exposed and then subjected to development-processing in the same manner as in Example 2 of the present specification to evaluate the sensitivity and the residual color in the same manner as in Example 2 of the present specification.

DECLARATION UNDER 37 C.F.R. §1.132

Application No. 09/845,355

The results are shown in Table 3' together with the results of Samples Nos. 200 to 203 and 206 in <sup>Table 3</sup>~~Table 3'~~ of the present specification. T.W  
5/14/2002

TABLE 3'Results of Red Sensitivity and Cyan Residual Color

<u>Sample No.</u>	<u>Sensitizing Dye</u>		<u>Red Sensitivity</u>	<u>Cyan Residual Color</u>	<u>Remarks</u>
200	None	None	-	0 (control)	Blank
201	S-1	S-2	100	0.072	Comparison
202	S-1	None	79	0.055	Comparison
203	S-1	VI-1	102	0.062	Comparison
206	V-2	VI-1	123	0.032	Invention
211	V-2	None	88	0.027	Comparison
212	S-2	None	85	0.079	Comparison
213	VI-1	None	82	0.035	Comparison
214	V-2	S-2	108	0.056	Comparison

Dye V-2 of the present invention is corresponding to Compound I-1 described in Miyamoto et al (U.S. Patent 5,364,755) and Dye VI-1 of the present invention is corresponding to Compound I-10 described in Miyamoto et al.

DECLARATION UNDER 37 C.F.R. §1.132

Application No. 09/845,355

As is apparent from the results of Sample Nos. 202 and 211 to 213 in Table 3', when Dye V-2, Dye VI-1, Comparative Dye S-1 or Comparative Dye S-2 is used alone, the sufficient sensitivity can not be obtained, also when their dyes are suitably used in combination, the red sensitivity can be enhanced.

Further, as is apparent from the results of Sample Nos. 201, 203 and 214 in Table 3', when the dyes other than the dye of the present invention are used, the residual color is worsened, but as is apparent from the results of Sample No. 206 in Table 3', only when the two dyes of the present invention are used in combination, the cyan stain (i.e., the cyan residual color) can be lowered and the extremely high red sensitivity can be obtained.

### EXAMPLE 3

#### Preparation of Sample Nos. 300 to 307

Sample Nos. 301 to 307 were prepared by replacing Sensitizing Dyes S-6 and S-7 in Emulsions L to P used in Sample No. 201 of Example 2 of the present specification with Equimolar amounts of the dyes as shown in Table 4 below, and Sample No. 300 was prepared by eliminating dyes.

Each piece of the thus-obtained samples was subjected to 20 CMS white light exposure for 1/100 sec. through a gray wedge, then processed by the processing step described in Example 2, and

DECLARATION UNDER 37 C.F.R. §1.132

Application No. 09/845,355

sensitometry was preformed. The yellow stain density of dye-free Sample No. 300 was subtracted from the <sup>yellow</sup>~~cyan~~ stain density of T.N each piece of the samples after processing and the residual color was evaluated. 5/24/2002

The results of sensitometry and evaluation of residual color are shown in Table 4 below. The blue light relative sensitivity was compared on the basis of the relative exposure amount giving the density larger than the minimum density by 1.0 with the sensitivity of Sample No. 201. being 100.

TABLE 4

Results of Blue Sensitivity and Yellow Residual Color

<u>Sample No.</u>	<u>Sensitizing Dye</u>		<u>Blue Sensitivity</u>	<u>Yellow Residual Color</u>	<u>Remarks</u>
200	S-6	S-7	100	0.107	Comparison
300	None	None	-	0 (control)	Blank
301	S-6	III-2	103	0.048	Comparison
302	IV-7	III-2	112	0.033	Invention
303	IV-7	S-7	106	0.099	Comparison
304	S-6	None	85	0.042	Comparison
305	S-7	None	80	0.122	Comparison
306	IV-7	None	79	0.032	Comparison
307	III-2	None	75	0.027	Comparison

DECLARATION UNDER 37 C.F.R. §1.132

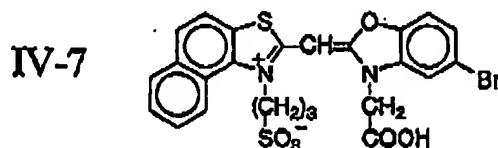
Application No. 09/845,355

IV-7

Dye ~~III~~ of the present invention is corresponding to Compound  
(75) described in Hieki et al (U.S. Patent 6,103, 461).

T.N

5/24/2002



As is apparent from the results of Sample Nos. 304 to ~~301~~<sup>307</sup> of Table 4, when Dye III-2 of the present invention, Dye IV-7 of the present invention, Comparative Dye S-6 or Comparative Dye S-7 is used alone, the sufficient sensitivity can not be obtained, but their dyes are suitably used in combination, the blue sensitivity can be enhanced.

T.N

5/24/2002

Further, as is apparent from the results of Sample Nos. 201, 301 and 303 in Table 4, when the two dyes other than the dye of the present invention are used, the residual color is worsened, but as is apparent from the results of Sample No. 302 of Table 4, only when the two dyes of the present invention are used in combination, the yellow stain (i.e., yellow residual color) can be lowed and extremely high blue sensitivity can be obtained.

Therefore, it is clearly seen from the above results of Table 3' and 4, that when the two sensitizing dyes of the present invention are used in combination, the compatibility of the sufficient sensitivity and the prevention of the worse in residual

DECLARATION UNDER 37 C.F.R. §1.132

Application No. 09/845,355

color (i.e., the reduction in residual color) can be first achieved.

Thus, it is believed that the unexpected effect of the present invention can be demonstrated by the above results of Tables 3' and 4.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date : May 24, 2002

Name : Tetsuo Nakamura  
Tetsuo Nakamura



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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Tetsuo NAKAMURA, et al.

Appln. No.: 09/845,355

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Confirmation No.: 2615

Examiner: T. CHEA

Filed: May 1, 2001

For: SILVER HALIDE PHOTOGRAPHIC EMULSION AND SILVER HALIDE  
PHOTOGRAPHIC MATERIAL

**SUBMISSION OF EXECUTED DECLARATION UNDER 37 C.F.R. §1.132**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Submitted herewith is an executed Declaration Under 37 C.F.R. §1.132  
signed by Tetsuo NAKAMURA. An unexecuted version of this Declaration was filed  
with the Amendment filed on May 28, 2002.

Respectfully submitted,

Lee C. Wright  
Registration No. 41,441

SUGHRUE MION, PLLC  
2100 Pennsylvania Avenue, N.W.  
Washington, D.C. 20037-3213  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

Date: May 29, 2002

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